

## REMARKS

Claims 1-20 are pending in the application. The Office Action rejects claims 1-20 as anticipated by, or obvious in view of, U.S. Patent No. 3,100,282, to Fletcher ("Fletcher"). For at least the reasons articulated in this paper, the Applicant disagrees, and submits that the Office Action fails to set forth *prima facie* rejections of the claims.

More specifically, the Office Action rejects claims 1-2 as anticipated by Fletcher under 35 U.S.C. § 102(b). *See* Office Action at 2. In addition, the Office Action rejects claims 3-20 as obvious over Fletcher pursuant to 35 U.S.C. § 103(a). *See id.* at 3-6.

With respect to independent claim 1, the Office Action asserts: "Fletcher teaches a converter in a radio-frequency (RF) apparatus, the converter comprising a feedback circuitry (30, 16, 10, 15, see figures 1-2) having a shielded input 32 and a shielded output 34, wherein the shielded input and the shielded output inherently tend to reduce interference in the converter." Office Action at 2. In response to the Applicant's argument that Fletcher fails to teach the claimed converter, the Office Action asserts that "the claimed converter is broadly recited. Therefore, the transducer of Fletcher reason the claimed converter because the transducer, as the name implied, converts the input from one form into output of another." *Id.* at 7. The Applicant respectfully disagrees.

At the outset, Fletcher's transducer 10 cannot teach the claimed "converter." As the Applicant has noted, the claimed "converter" includes a "feedback circuitry." Fletcher's transducer 10, according to Fletcher's own description, does not appear to include a feedback circuit.

In response, the Office Action further asserts that "Fletcher does teach the claimed feedback circuitry (col. 2, lines 20-25)." Office Action at 7. The Office cannot have it both ways. If the Office contends that Fletcher's transducer actually constitutes the claimed "converter in a radio-frequency (RF) apparatus,," the Office must show how Fletcher's transducer 10 includes "a feedback circuitry having a shielded input and a shielded output, wherein the shielded input and the shielded output tend to reduce interference in the converter." In other words, the Office must show that Fletcher's transducer 10 includes "a feedback circuitry having a shielded input and a shielded output,

wherein the shielded input and the shielded output tend to reduce interference in the converter,” not that Fletcher somewhere in his disclosure makes a reference to feedback. The Office has failed to do so.

Furthermore, Fletcher states that “[i]n measuring systems, it is often necessary to connect one or more remotely located transducers or signal sources to an output device, with the transducers producing small magnitude D.C. voltages in response to changes in some physical phenomenon, such as temperature, pressure, rate of flow, and the like.” Fletcher at col. 1, lines 13-18. Furthermore, Fletcher’s figures 1 and 2 show transducer 10 as a box that drives a filter 11 via leads 15 and 16. Another passage in Fletcher teaches that “transducer 10 may be conventional in nature, such as a strain gage, a potentiometer, a thermocouple, a varistor, or the like.” According to Fletcher’s explicit terms, and to the Applicant’s reading, nothing in Fletcher teaches or suggests that transducer 10 includes the claimed “feedback circuitry” or a “converter in a radio-frequency (RF) apparatus.”

In addition, claim 1 recites that the “feedback circuitry,” which is part of the “converter,” “[has] a shielded input and a shielded output.” The Office Action asserts that “Fletcher further teaches the shield input 32 (col. 4, line 45) and the shield output 34 (col. 4, line 47).” Even if Fletcher’s transducer 10 were a “converter,” to the Applicant’s reading, nothing in Fletcher teaches that any feedback circuitry (as alleged by the Office) in transducer 10 has “a shielded input and a shielded output.” Thus, Fletcher fails to anticipate or render obvious independent claim 1.

Finally, claim 1 recites a “converter in a radio-frequency (RF) apparatus.” Fletcher, according to the Applicant’s reading, nowhere discusses using transducer 10 as part of a radio-frequency (RF) apparatus. Thus, the Applicant respectfully submits that the Office incorrectly asserts that “the transducer of Fletcher reads on the claimed converter.” Office Action at 7.

With respect to claim 3, the Office Action states “Fletcher teaches a method of reducing interference in a circuit in a radio-frequency (RF) apparatus, wherein the circuit 11, 12, 14 (fig. 2) has an input 32 and an output 34, the method comprising: shielding 32 an input of the circuit 11, 12,

14; and shielding 34 an output of the *non-linear circuit* 11, 12, 14 (fig. 2).” Office Action at 3 (emphasis added). The Applicant respectfully disagrees.

First, to the Applicant’s reading, nothing in Fletcher teaches or suggests a non-linear circuit in an RF apparatus. The Office incorrectly characterizes Fletcher as teaching “output of the non-linear circuit 11, 12, 14 (fig. 2).” Office Action at 3.

Furthermore, the Office Action states that, “Fletcher does not explicitly teach that the operational amplifier in the circuit is classified as class A (linear) or class B or C (non-linear). It is taken official notice that operational amplifiers can be either linear class A amplifier or non-linear class B or C amplifiers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include non-linear circuit in the apparatus of Fletcher in order to reduce power consumption.” Office Action at 3-4.

Again, the Applicant must respectfully disagree. At the outset, the Applicant submits that the Office may not properly take official notice of a matter unless the matter is clear and commonly known. The Office fails to explain how persons of ordinary skill in the art would commonly know or wish to use a non-linear amplifier in an amplifier circuit for amplifying the output of a transducer, as does Fletcher’s disclosed circuit. Put another, the Applicant submits that, in the context of Fletcher’s disclosure, the Office may not properly take official notice that “that operational amplifiers can be either linear class A amplifier or non-linear class B or C amplifiers,” even if one assumes that Fletcher discloses an operational amplifier, which the Office does not establish.

Furthermore, Fletcher teaches that “amplifier 12 may be conventional in design having a negative gain that is very high so that the over-all gain of the circuit can be controlled by the relative values of resistors 22, 23 which comprise the output circuit 12.” Fletcher at col. 3, lines 3-6. The description implies that Fletcher’s amplifier is a linear amplifier, whose gain the relative values of resistors 22 and 23 determine. Nowhere does the description suggest that a non-linear amplifier would even operate properly in Fletcher’s amplifier circuit.

Additionally, if the Office wishes to rely on the obviousness rejection based on Fletcher as outlined in the Office Action, the Applicant respectfully requests that the Office establish that Fletcher teaches that amplifier 12 is an operational amplifier. To the Applicant's reading, Fletcher merely teaches that "amplifier 12 may be conventional in design." Fletcher at col. 3, at line 3.

Finally, with respect to independent claim 5, the Office Action asserts that:

Fletcher teaches a radio-frequency (RF) apparatus, comprising:  
a signal processing circuit (30, 16, 10, 15, fig. 2);  
a first shield 32 that shields an input of the signal processing circuit (30, 16, 10, 15); and  
a second shield 34 that shields an output of the signal processing circuit (30, 16, 10, 15, fig. 2).

Office Action at 4. The Office Action goes on to state that, "Fletcher does not explicitly teach that the operational amplifier in the circuit is classified as class A (linear) or class B or C (non-linear). It is taken official notice that operational amplifiers can be either linear class A amplifier or non-linear class B or C amplifiers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include non-linear circuit in the apparatus of Fletcher in order to reduce power consumption." Office Action at 4. Again, the Applicant respectfully disagrees.

As noted above, the Applicant submits that the Office may not properly take official notice of a matter unless the matter is clear and commonly known. The Office fails to explain how persons of ordinary skill in the art would commonly know or wish to use a non-linear amplifier in an amplifier circuit for amplifying the output of a transducer, as does Fletcher's disclosed circuit. Put another, the Applicant submits that, in the context of Fletcher's disclosure, the Office may not properly take official notice that "that operational amplifiers can be either linear class A amplifier or non-linear class B or C amplifiers," even if one assumes that Fletcher discloses an operational amplifier, which the Office does not establish.

As the Applicant notes above, Fletcher teaches that "amplifier 12 may be conventional in design having a negative gain that is very high so that the over-all gain of the circuit can be controlled by the relative values of resistors 22, 23 which comprise the output circuit 12." Fletcher at col. 3, lines 3-6. The description implies that Fletcher's amplifier is a linear amplifier, whose gain

the relative values of resistors 22 and 23 determine. Nowhere does the description suggest that a non-linear amplifier would even operate properly in Fletcher's amplifier circuit.

Additionally, if the Office wishes to rely on the obviousness rejection based on Fletcher as outlined in the Office Action, the Applicant respectfully requests that the Office establish that Fletcher teaches that amplifier 12 is an operational amplifier. To the Applicant's reading, Fletcher merely teaches that "amplifier 12 may be conventional in design." Fletcher at col. 3, at line 3.

For at least the reasons articulated above, Fletcher fails to render unpatentable independent claims 1, 3, and 5. The rest of the claim depend either or indirectly on independent claims 1, 3, 5. Accordingly, Fletcher fails to render unpatentable any of the pending claims.

In view of the above remarks, the Applicant respectfully submits that the presently pending claims are allowable. The Applicant therefore respectfully requests a prompt Notice of Allowance.

## CONCLUSION

In view of the remarks above, the Applicant respectfully submits that the Office Action fails to set forth *prima facie* rejections of the claims, and that the claims are in allowable condition. Consequently, the Applicant respectfully requests favorable reconsideration and prompt issuance of a Notice of Allowance.

The Applicant believes that no fees are due. If any fees are due under 37 C.F.R. §§ 1.16-1.21 for any of the enclosed materials, however, the Commissioner may deduct such fees from (or credit any overpayment to) deposit account number 50-3813/SILA-122.

The Applicant invites the Examiner to contact the undersigned at the phone number indicated below with any questions or comments, or to otherwise facilitate expeditious and compact prosecution of the application.

Respectfully submitted,



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